

**Amendments to the Specification**

1. Please replace the paragraph beginning at page 13, line 15 with the following rewritten paragraph:

--FIG. ~~28A~~ 28B summarizes the paths of FIG. 27 to generate the guide;--

2. Please replace the paragraph beginning at page 14, line 1 with the following rewritten paragraph:

--FIG. ~~30A~~ 30B summarizes the paths of FIG. 24 to generate the guide--

3. Please replace the paragraph beginning at page 14, line 12 with the following rewritten paragraph:

--FIGS. ~~33A-D~~ A-F shows the six combinations of concurrent connections required for a 3×3 switch to ~~quality~~ qualify as a compressor; --

4. Please insert the following paragraph on page 17 after line 15:

--FIGS. 56A-D depict balanced binary trees with different numbers of leaves;--

5. Please replace the paragraph beginning at page 97, line 7 with the following rewritten paragraph:

-- Contrasting the situation of banyan-type networks, the trace and the guide of a bit-permuting network in general cannot be arbitrarily altered by prepending an input exchange and appending an output exchange. For example, a trace 1, 2, 3, 1 can never be changed to another trace 1, 2, 3, 2 by this way. On the other hand, if the trace and the guide of a bit-permuting network can be changed to the trace and the guide of another bit-permuting network by prepending an input exchange and/or appending an output exchange, the two networks are regarded to be equivalent. In particular, all banyan-type networks are equivalent in this sense, the weakest sense of equivalence. Different senses of equivalence among bit-permuting networks and among banyan-type networks will be discusses in section ~~G~~ E after the introduction of "cell rearrangement."--

6. Please replace the paragraph beginning at page 114, line 14 with the following rewritten paragraph:

--The relationship among switch attributes that are preserved under 2X or X2 interconnection is depicted by diagram 3900 of FIG. ~~38~~ 39; --

7. Please replace the paragraph beginning at page 114, line 16 with the following rewritten paragraph:

--Example 13. Consider a 15×15 compressor 4000 constructed from the 2X version 2STg(3,5) as shown in FIG. ~~39~~ 40, by filling in the nodes with any compressors (4001, 4002, 4003, 4004, 4005, 4006, 4007, 4008) of appropriate sizes. Suppose seven concurrent connections are requested between the array of external input ports and array of external output ports (4009, 4010): --